

Application No. 09/824,951

IN THE CLAIMS:

Please cancel claims 79-83 without prejudice or disclaimer.

Claims 1 – 70 (Cancelled)

71. (Previously presented) A method for selecting a master switch from a plurality of switches in a stack, each switch in the stack having at least one stack port for communication with at least another one of the plurality of switches in the stack, the method comprising:

each switch in the stack communicating with at least one other switch in the stack via the at least one stack port thereof;

determining whether at least one of the plurality of switches in the stack is an OSI Layer 3 switch;

where at least one OSI Layer 3 switch is found in the stack, selecting the OSI Layer 3 switch having the lowest switch identification as the master switch of the stack; and

where no OSI Layer 3 switch is found in the stack, selecting the switch having the lowest switch identification as the master switch of the stack;

wherein the lowest switch identification is computed based on a unique Media Access Control address assigned to each switch in the stack, an Internet Protocol address assigned to each switch in the stack, a weight assigned to the stack port via which the switch is accessed, and a link cost assigned thereto.

72. (Previously presented) A method according to claim 71, wherein responsive to the determining step finding no OSI Layer 3 switch in the stack, the method further comprising:

adding a new switch to the stack;

determining a modified topology resulting from the addition of the new switch to the stack; and

selecting the new switch as the master switch responsive to the new switch being an OSI Layer 3 switch.

Application No. 09/824,951

73. (Previously presented) A method according to claim 71, wherein responsive to the determining step finding at least one OSI Layer 3 switch in the stack, the method further comprising:

adding a new switch to the stack;

determining a modified topology resulting from the addition of the new switch to the stack; and

selecting the new switch as the master switch responsive to the new switch being an OSI Layer 3 switch having the lowest switch identification in the augmented stack.

74. (Previously presented) A method according to claim 71, and further comprising:

joining together two partitions of the stack of switches into a combined stack;

determining whether at least one of the switches from either one of the two partitions of the stack of switches is an OSI Layer 3 switch;

where at least one OSI Layer 3 switch is found in the combined stack, selecting the OSI Layer 3 switch having the lowest switch identification as the master switch of the combined stack; and

where no OSI Layer 3 switch is found in the combined stack, selecting the switch having the lowest switch identification as the master switch of the combined stack.

75. (Previously presented) A method for distributed OSI Layer 3 packet processing for a stacked switch configuration having a plurality of switches, wherein at least two of the plurality of switches in the stack are OSI Layer 3 switches and at least one of the plurality of switches is an OSI Layer 2 switch, the method comprising:

assigning every OSI Layer 3 switch as a head router to itself;

assigning to every OSI Layer 2 switch as its head router the closest OSI Layer 3 switch thereto; and

assigning one of the at least two OSI Layer 3 switches as a master switch for stacked switch configuration;

Application No. 09/824,951

wherein the closeness to an OSI Layer 3 switch is measured as the number of hops between the OSI Layer 2 switch and the OSI Layer 3 switch as determined from the topology of the stack.

76. (Previously presented) A method according to claim 75, wherein at least two switches in the stack each have at least one external port for communication with network entities outside of the stack, the method further comprising:

receiving via an external port an ARP request at an OSI Layer 3 switch that is not the master switch of the stack; and

sending a response to the ARP request, the response having the MAC address of the OSI Layer 3 switch as a source MAC address.

77. (Previously presented) A method according to claim 75, wherein at least two switches in the stack each have at least one external port for communication with network entities outside of the stack, the method further comprising:

receiving an ARP request at one of the OSI Layer 2 switches via an external port; and

sending a response to the ARP request, the response having the MAC address of the closest OSI Layer 3 switch as a source MAC address.

78. (Previously presented) A method according to claim 75, wherein each switch in the stack has at least one stack port for communication with at least another one of the plurality of switches in the stack, at least two switches in the stack each having at least one external port for communication with network entities outside of the stack, the method further comprising:

receiving an ARP request bearing an address which cannot be resolved by any switch in the stack; and

broadcasting the ARP request via stack ports to each switch in the stack;

wherein each switch in the stack, responsive to the broadcast, forwards the ARP request via the non-stack port associated therewith, the forwarded ARP request having as a route interface IP address the sender's IP address and as a MAC address of the head router the sender's MAC address.

Application No. 09/824,951

79-83. Cancelled.